

CLAIMS

1. (original) A method of controlling the administration of a thermal therapy, comprising:

inserting a catheter having a heat transfer element positioned at a distal tip of the catheter into a blood vessel of a patient, the catheter having a supply lumen for supplying a working fluid to the heat transfer element and a return lumen for returning a working fluid from the heat transfer element;

circulating a working fluid through the catheter and the heat transfer element, the working fluid having a temperature different from the patient temperature;

receiving a signal from a temperature sensor mounted at or adjacent the distal tip of the heat transfer element;

determining a control temperature based on the signal; and

using the control temperature to control the temperature of the working fluid.

2. (original) The method of claim 1, further comprising causing the working fluid to stop circulating, and wherein the receiving includes:

allowing a first interval of time to pass;

collecting data from the temperature sensor during a second interval of time,

such that the allowing and collecting each follow the causing.

3. (original) The method of claim 1, wherein the temperature sensor is selected from the group consisting of thermistors, thermocouples, and combinations thereof.

4. (original) The method of claim 3, wherein the temperature sensor is two thermistors, and further comprising receiving a safety monitor signal from one of the two thermistors.
5. (original) The method of claim 4, further comprising causing the working fluid to stop circulating if a value of control temperature measured by the safety monitor signal falls outside a predetermined range.
6. (original) The method of claim 5, wherein the predetermined range is 31°C to 37°C.
7. (original) The method of claim 2, wherein no data is collected during the first interval.
8. (original) The method of claim 7, wherein data is collected during the second interval at a predetermined frequency.
9. (original) The method of claim 2, wherein the first interval is between about 5 and 15 seconds.
10. (original) The method of claim 9, wherein the first interval is between about 10 and 12 seconds.
11. (original) The method of claim 2, wherein the second interval is between about 10 and 30 seconds.
12. (original) The method of claim 11, wherein the second interval is between about 15 and 25 seconds.

13.(original) The method of claim 1, wherein the temperature sensor is disposed in a polymer tube.

14.(original) The method of claim 1, wherein the temperature sensor is a thermistor.

15.(original) The method of claim 13, wherein the polymer is polyamide.